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EXAMINER	
ROBERTS, JESSICA M	

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2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/670,245	SUGANO ET AL.	
	Examiner	Art Unit	
	JESSICA ROBERTS	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/05/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 09/05/2008 have been fully considered but they are not persuasive.

2. See Office action mailed on 10/03/2008.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/05/2008 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-6,9-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakraborty et al., US-7, 110,454 in view of Toklu et al., US-6,549,643.

Re **claim 1**, Chakraborty discloses a scene classification apparatus (fig. 1) of video, where a scene is composed of one or more continuous shots and thus a larger unit than a shot, for classifying a sequence of shots into a certain type of scene, whose number is smaller than a total number of shots, comprising: a calculator for calculating shot density (histogram difference metric, a histogram is a graphical display of tabulated frequencies and fig. 2A: 203) DS of the video; a calculator for calculating motion intensity (interframe difference metric col. 4 line 22-23, col. 14 lines 30-32, and fig. 2A: 202) of the respective shots; and a dynamic/static scene classifier (metric computation col. 5 line 9-11, fig. 1:14-17 and fig. 2A) for classifying the respective shots into a dynamic scene (abrupt scene, see abstract, furthermore, the meaning of abrupt is interpreted as sudden or fast) with much motions or a static scene with little motions (gradual scene, see abstract, furthermore, the meaning of gradual is interpreted as slow and not moving quickly) based on the shot density (histogram difference, a histogram is a graphical display of tabulated frequencies) and the motion intensity (interframe difference col. 4 line 22-23 and col. 14 lines 30-32).

Chakraborty does not explicitly teach a shot segmentation device to segment the video into respective shots. However, Toklu teaches a shot segmentation device to

segmentation device to segment the video into respective shots (video segmentation module 12, column 5 line 38-57, and fig 1 element 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Toklu with Chakraborty to generate a content based visual summary of video and facilitate digital video browsing and indexing, column 3 line 40-43).

Regarding **claim 2**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 1, wherein the dynamic/static (metric computation col. 5 lines 9-11, fig. 1:14-17 and fig. 2A) scene classifier classifies a sequence of shots whose shot density (histogram difference, a histogram is a graphical display of tabulated frequencies) is larger than first reference density and whose motion intensity is stronger than first reference intensity (frame to frame intensity col. 1 lines 50-53) into the dynamic (abrupt col. 12, line 67; col. 13 line 1-3) scene.

Regarding **claim 3**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 1, wherein the dynamic/static scene detector (metric computation col. 5 lines 9-11, fig. 1:14-17 and fig. 2A) classifies a shot whose shot density (histogram difference, a histogram is a graphical display of tabulated frequencies) is smaller than second reference density and whose motion intensity (histogram difference computation fig. 1:16) is weaker than second reference intensity into the dynamic scene (gradual scene).

Regarding **claim 4**, Chakraborty discloses a scene classification apparatus (fig. 1) of video for segmenting video into shots (col. 5, line 1) and classifying each scene composed of at least one continued shot based on a content of the scene (continuous units or “shots” col. 1 line 35-37, col. 5, lines 16-24; Note: the “metrics” are used for scene classification), comprising: an extractor for extracting shots (validation module col. 7 lines 54-55) similar to a current target shot (candidate and non-candidate scene change locations (frames) col. 7 lines 36-38 and fig. 1:19) from shots after a shot before the target shot (compares neighboring keyframes col. 7 line 55) only by a predetermined interval (predetermined threshold col. 14 line 59); and a slow (gradual) scene detector (interframe variance difference col. 7 line 48-50) for classifying the target shot (candidate and non-candidate scene change locations (frames) col. 7 lines 39-38) into a slow scene (gradual) of the similar shot based on motion intensity (interframe difference col. 14 lines 30-32) of the target shot (candidate and non-candidate scene change locations (frames) col. 7 lines 36-38 and fig. 1:19) and the similar shot (key frame col. 14 lines 52-57 and fig 2B: 229).

Chakraborty does not explicitly teach a shot segmentation device to segment the video into respective shots. However, Toklu teaches a shot segmentation device to segmentation device to segment the video into respective shots (video segmentation module 12, column 5 line 38-57, and fig 1 element 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Toklu with Chakraborty to generate a

content based visual summary of video and facilitate digital video browsing and indexing, column 3 line 40-43).

Regarding **claim 5**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 4, wherein the slow (gradual) scene detector (interframe variance difference metric computation col. 7 line 48-50 and fig. 1: 17) classifies the target shot (candidate and non-candidate scene change locations (frames) col. 7 lines 36-38 and fig. 1:19) into the slow scene (gradual scene) of the similar shot when the motion intensity (interframe difference col. 14 lines 30-32) of the similar shot is stronger than the motion intensity (interframe difference col. 14 lines 30-32) of the target shot (candidate and non-candidate scene change locations (frames) col. 5 line 20-24).

Regarding **claim 6**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty further discloses comprising a first highlight (gradual) scene detector (shot list database col. 8 line 8-11 fig. 1:21) for classifying a scene composed of a plurality of shots continued just before (neighboring key frames col. 7 line 55-59) the slow (gradual) scene into a first highlight (gradual) scene.

Regarding **claim 9,** Chakraborty discloses a scene classification apparatus (fig. 1) of video for segmenting video into shots (col. 5, line 1) and classifying each scene composed of at least one continued shot based on a content of the scene (continuous units or "shots" col. 1 line 35-37, col. 5, lines 16-24; <u>Note</u>: the "metrics" are used for

scene classification), comprising: an extractor for extracting shots (validation module col. 7 lines 54-55), comprising: detector for detecting a histogram relating to motion directions of the shots (histogram difference metric col. 8 line 51-56 and col. 9 line 4-5); and a detector for detecting a scene in which a camera operation has been performed based on the histogram of motion direction (interframe difference col. 4 lines 16-17).

Chakraborty does not explicitly teach a shot segmentation device to segment the video into respective shots. However, Toklu teaches a shot segmentation device to segmentation device to segment the video into respective shots (video segmentation module 12, column 5 line 38-57, and fig 1 element 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Toklu with Chakraborty to generate a content based visual summary of video and facilitate digital video browsing and indexing, column 3 line 40-43).

Regarding **claim 10**, the combination of Chakraborty as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 9, further comprising a zooming scene detector (interframe variance difference metric col. 4 lines 15-17) for, when the histogram of motion direction (histogram difference metric col. 8 lines 54-57) is uniform (col. 8 lines 62-63, i.e. "normal' intensity distribution) and a number of elements of respective bins is larger than a reference number of elements (each bin corresponding to an intensity range col. 8 line 53), classifying its shot into a zooming scene (gradual scene).

Regarding **claim 11**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 9, further including: detector for detecting spatial distribution (variance difference furthermore, the variance difference detects the difference within a frame where spatial distribution takes place) of motion of each shot; and a panning scene detector (interframe and histogram difference metric col. 7 lines 46-48) for detecting whether the respective shots are a panning scene (abrupt scene) based on the histogram of motion direction (histogram difference metric, the histogram as well as the interframe difference metric are processed to validate candidate scene changes as abrupt col. 7 lines 45-48 and fig. 2A: 202-203) and the spatial distribution of motion (variance difference).

Regarding **claim 12**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 1. In addition Chakraborty discloses the scene classification apparatus of video according to claim 11, wherein when the histogram of motion (histogram difference metric) direction is concentrated in one direction and the spatial distribution (variance difference furthermore, the variance difference detects the difference within a frame where spatial distribution takes place) of motion is uniform (typically assumed not to change from frame to frame col. 12 lines 33-34), the panning scene detector (interframe and histogram difference metric col. 7 lines 46-48) classifies shot into the panning (abrupt) scene.

Regarding **claim 13**, Chakraborty discloses a scene classification apparatus (fig. 1) of video for segmenting video into shots (col. 5, line 1) and classifying each scene

composed of one or more shots based on a content of the scene (continuous units or “shots” col. 1 line 35-37, col. 5, lines 16-24; Note: the “metrics” are used for scene classification), comprising: an extractor for extracting shots (validation module, col. 7 lines 54-55), comprising: a detector for detecting a shot density DS (histogram difference metric, a histogram is a graphical display of tabulated frequencies) of the video; and a commercial scene detector (interframe and histogram difference metric, col. 7 lines 46-48) for detecting a commercial scene (abrupt scene) by comparing a shot density (minimum predefined shot duration col. 13 lines 18-35) detected during a predetermined interval with a predetermined reference shot density (column 14 line 21-27).

Regarding **claim 14**, Chakraborty discloses a scene classification apparatus of video for segmenting video into shots and classifying each scene composed of one or more continuous (continuous units or “shots”, col. 1 line 35-37) shots based on a content of the scene, comprising: a detector for detecting a number of shot boundaries (threshold levels, col. 5 lines 22-23, furthermore, histograms are the most common method used to detect shot boundaries) of the video; and a commercial scene detector (interframe and histogram difference metric, col. 7 lines 46-48) for detecting a commercial scene (abrupt scene. Chakraborty further discloses video in education and commerce; a video in commerce would be a commercial scene) by comparing a number of shot boundaries (threshold level col. 5 line 22-23) detected during a predetermined interval with a predetermined reference number (column 14 line 21-27).

Chakraborty does not explicitly teach a shot segmentation device to segment the video into respective shots. However, Toklu teaches a shot segmentation device to segmentation device to segment the video into respective shots (video segmentation module 12, column 5 line 38-57, and fig 1 element 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Toklu with Chakraborty to generate a content based visual summary of video and facilitate digital video browsing and indexing, column 3 line 40-43).

Regarding **claim 16**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claim 11. In addition, Chakraborty teaches wherein the video are compressed data (video source may be either compressed or decompressed video data, col. 6 lines 45-46), and the spatial distribution (variance difference, referring to within the frame, furthermore, MPEG has spatio temporal locator capabilities) of motion is detected by using a value of a motion vector of a predictive coding image existing in each shot (MPEG, col. 6 lines 51-60, furthermore, MPEG is a predictive image coding technique that incorporates tabulating motion vector values).

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakraborty (US Patent 7,110,454) in view of Toklu et al., US-6,549,643 and in further view of Blanchard US Patent 6347114).

Regarding **claim 7**, Chakraborty fails to teach a detector for detecting the intensity of audio signals accompanied by the video. Blanchard teaches a detector for detecting intensity of an audio signal (audio levels col. 3 lines 37-51) accompanied by

the video (col. 2 lines 27-29) into shot. Blanchard also teaches detector for classifying a scene composed of a plurality of shots continued before and after a shot with the audio signal intensity stronger than the predetermined intensity (col. 2 lines 17-22) into a second highlight scene (gradual scene).

Taking the combined teaching of Chakraborty (modified by Toklu) and Blanchard as a whole, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to incorporate detecting the intensity of audio signals accompanied by the video as claimed for the benefit of detecting scene changes that may generally be identified and distinguished from mere shots changes where the audio level will generally remain the same.

Regarding **Claim 8**, the combination of Chakraborty (modified by Toklu) and Blanchard as whole further teaches everything claimed as applied above; see claims 7. In addition Chakraborty teaches a commercial scene detector (interframe and histogram difference metric col. 7 lines 46-48, Chakraborty) for classifying the respective shots into a commercial scene (abrupt scene), wherein a scene classified into a scene other than the first highlight scene (gradual), the second highlight scene (gradual scene) and the commercial scene (abrupt scene) is classified into the highlight scene (gradual).

7. Claims 15,17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakraborty (US Patent 7,110,454) in view of Toklu et al., US-6,549,643 and in further view of Park et al., US-6,597,738.

Regarding **claim 15**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claims 1 or 4. In addition, Chakraborty discloses the

scene classification apparatus of video according to claim 1 or 4, wherein the video are compressed data (video source may be either compressed or decompressed video data, col. 6 lines 45-46). However, Chakraborty silent in regards to the motion intensity is detected by using a value of a motion vector of a predictive coding image existing in each shot.

However, Park teaches motion intensity is detected by using a value of a motion vector of a predictive coding image existing in each shot (column 16 line 20-35 and fig. 14).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Chakraborty (modified by Toklu) with Parks' teaching of motion intensity detected by motion vectors to increase the speed and efficiency of data search, it has been researched and developed new search techniques which include the widely-known character-based search technique and have composite information attribute, thereby being suitable for efficient data search of multimedia (column 1 line 30-36).

Regarding **claim 17** Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claims 1 or 4. In addition, Chakraborty discloses the scene classification apparatus of video according to claim 9, wherein the video are compressed data video source may be either compressed or decompressed video data, col. 6 lines 45-46). Chakraborty is silent in regards to the histogram of motion direction is detected by using a value of a motion vector of a predictive coding image existing in each shot.

However, Park teaches the histogram of motion direction is detected by using a value of a motion vector of a predictive coding image existing in each shot (Park, column 16 line 63 to column 17 line 10, column 22 line 31-49, column 18 line 29-31, fig. 9 and fig. 14).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Chakraborty (modified) with Parks' teaching of a histogram of motion direction is detected by using a value of a motion vector of a predictive coding image existing in each shot to increase the speed and efficiency of data search, it has been researched and developed new search techniques which include the widely-known character-based search technique and have composite information attribute, thereby being suitable for efficient data search of multimedia (column 1 line 30-36).

Regarding **claim 18**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claims 1 or 4. In addition, Chakraborty discloses the scene classification apparatus of video according to claims 1 or 4, wherein the video are uncompressed data (video source may be either compressed or decompressed video data, col. 6 lines 45-46). However, Chakraborty is silent in regards to the motion intensity (is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots.

However, Park teaches the motion intensity is detected by using a value of a motion vector representing a change in motion predicted from a compared result of

frames composing the respective shots (Park, column 11, line 66 to column 12 line 7 and column 24 line 55-60, and column 18 line 29-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Chakraborty (modified by Toklu) with the Parks' teaching of the motion intensity (is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots, to increase the speed and efficiency of data search, it has been researched and developed new search techniques which include the widely-known character-based search technique and have composite information attribute, thereby being suitable for efficient data search of multimedia (column 1 line 30-36).

Regarding **claim 19**, Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claims 1 or 4. In addition, Chakraborty discloses the scene classification apparatus of video according to claims 1 or 4, wherein the video are uncompressed data (video source may be either compressed or decompressed video data, col. 6 line 45-46). However, Chakraborty is silent in regards to the spatial distribution of motion is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots.

However, Park teaches the spatial distribution of motion is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots (Park, column 23 line 20-30. Further

Park discloses the motion direction is computed from the motion vector values, column 16 line 62-65 and column 18 line 29-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Chakraborty (modified by Toklu) with Parks' teaching of spatial distribution of motion is detected by using a value of a motion vector representing a change in motion, to increase the speed and efficiency of data search, it has been researched and developed new search techniques which include the widely-known character-based search technique and have composite information attribute, thereby being suitable for efficient data search of multimedia (column 1 line 30-36).

Regarding **claim 20** Chakraborty (modified by Toklu) as a whole teaches everything as claimed above, see claims 1or 4. In addition Chakraborty discloses the scene classification apparatus of video according to claims 1 and 4, wherein the video are uncompressed data (video source may be either compressed or decompressed video data, col. 6 line 45-46). Chakraborty is silent in regards to the histogram of motion direction (histogram difference metric) is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots.

However, Park teaches the histogram of motion direction is detected by using a value of a motion vector representing a change in motion predicted from a compared result of frames composing the respective shots (column 11 line 14-27, column 18 line 29-31 and fig. 1J).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Chakraborty (modified by Toklu) with Parks' teaching of spatial distribution of motion is detected by using a value of a motion vector representing a change in motion, to increase the speed and efficiency of data search, it has been researched and developed new search techniques which include the widely-known character-based search technique and have composite information attribute, thereby being suitable for efficient data search of multimedia (column 1 line 30-36).

12. Claim 21 is rejected under 35 U.S.C 103(a) as being unpatentable over Nakamura et al., US-2001/0051516 and in view of Chakraborty et al., US- 7,110,454 in view of Gonsalves et al., US-6,392,710.

Regarding **claim 21**, Nakamura teaches a scene classification apparatus of video for segmenting video into shots and classifying each scene composed of one or more continuous shots based on a content of the scene comprising: a detector for detecting a highlight scene (In such a case that a plurality of highlight scenes are detected by the analyzing unit 22, [0208] and fig. 2); extracting and combining means for extracting and combining a plurality of highlight scenes (In such a case that a plurality of highlight scenes are detected by the analyzing unit 22 from a program during a CM broadcasting time range, and the present CM broadcast is commenced, the reproducing management unit 27 reproduces a plurality of detected highlight scenes in a time sequential manner by equally increasing a reproducing speed, [0208] and fig. 2. Nakamura discloses the reproducing management unit 27 reproduces a plurality of

detected highlight scenes and the highlight scenes are stored in a highlight scene index storage unit, (fig. 2, element 25), it is clear to the examiner that in order to reproduce the highlight scenes stored in the storage unit, by the reproducing management unit, the highlight scenes are retrieved and combined, thus reading upon the claimed limitation). Nakamura is silent in regards to inserting means for inserting a video transition effect into a combined portion of the respective highlight scenes, wherein the inserting means makes a type of the video transition effect to be inserted different according to whether the highlight scenes to be combined are they dynamic scene or the static scene.

However, Chakraborty discloses in many cases, a transition between two shots is made in a gradual manner using special editing machines to achieve a visually pleasing effect, column

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Chakraborty with Nakamura for improved image quality.

Nakamura (modified by Chakraborty) is silent in regards to wherein the inserting means makes a type of video transition effect to be inserted different according to whether the highlight scenes to be combined are the dynamic scene or the static scene.

However, Gonsalves teaches allowing the video editor to insert a video transition effect on a field/frame-by-field/frame basis in order to improve accuracy of the effect (Gonsalves, special effect, col. 3 line 11-14 line 24, between two frames col. 4 line 65-67, col. 5 lines 50-52, and fig. 3b: 320a-320b).

Therefore, Chakrabortys' teaching of a transition between two shots is made in a gradual manner using special editing machines to achieve a visually pleasing effect, and Gonsalves teaching of the video editor to insert a video transition effect on a field/frame-by-field/frame basis, therefore it would have been clear to one of ordinary skill in the art to modify Gonsavles field/frame-by field/frame basis with Chakrabortys' teaching of inserting between two shots. Thus it is clear now that Nakamura (modified with Chakraborty and Gonsavles) teaches to insert a transition based on a shot-by-shot basis for a highlight scene, which reads upon the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Gonsalves with Nakamura (modified by Chakraborty) to improve accuracy of the effect.

Claim 22 is rejected under 35 U.S.C 103(a) as being unpatentable over Nakamura et al., US-2001/0051516 and in view of Chakraborty (US Patent 7,110,454) in view of Gonsalves US Patent (6,392,710) and further in view of Gotoh et al., US-5,801,765.

Regarding **claim 22**, Nakamura (modified by Chakraborty and Gonsalves) as a whole teaches everything as claimed above, see claim 21. Nakamura is silent in regards to the scene classification apparatus of video according to claim 21, wherein when the highlight scene is the dynamic scene, the video transition effect with small change in an image mixing ratio is inserted therein, and when the highlight scene is the static scene, the video transition effect with large change in the image mixing ratio is inserted therein.

However, Gotoh discloses where specifically, the scene-change is classified into two types depending on how a video changes: one in which a scene changes momentarily; and one in which a scene changes gradually. Those generally referred to as the scene-change is the former, i.e., a scene appeared in a moment of pressing a record start button (see Fig. 11(a)). The latter are those given special effects, such as effect and fade, when editing a video (see Fig. 11 (b)). Hereinafter, the former and the latter are referred to as "momentary scene-change" and "gradual scene-change" respectively. In a gradual scene-change, it takes much time that a scene change to another. In the Fig. 11 (b), pictures H to K comprise a gradual scene-change, column 2 line 17-29 and fig. 11(a) and 11(b). Therefore, it is clear to the examiner that Gotoh discloses a special effect that has a momentary change for a dynamic scene and a special effect that takes much time to change for gradual scene, which reads upon the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Gotoh with Nakamura (modified by Chakraborty and Gonsavles) for providing improved image quality.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA ROBERTS whose telephone number is (571)270-1821. The examiner can normally be reached on 7:30-5:00 EST Monday-Friday, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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